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Cc: Christner, Jan[Jan.Christner@WestonSolutions.com]
From: Petri, Elliott
Sent: Thur 4/9/2015 9:45:02 PM
Subject: Red and Bonita - Piezometer Comparison
[DGSI - vw-piezometer-datasheet.pdf](#)
[RST - Vibrating Wire Piezometers ELB0003X.PDF](#)
[Geokon - 4500 Series VW Piezometers.pdf](#)

Hi Steve,

Below is a comparison of the two vibrating wire Piezometers you sent me and an additional USA based company I found and researched:

Description	RST – VW2100- HD	DGSI – Heavy Duty 52610550	Geokon – 4500Ti	Geokon – 4500 HD
Range	50 – 1450 psi	50 – 500 psi	150 – 1000 psi	150 – 1000 psi
Resolution	0.025 % Full Span (F.S.)	0.025 % Full Span (F.S.)	0.025 % Full Span (F.S.)	0.025 % Full Span (F.S.)
Accuracy	0.1% F.S.	0.3% F.S.	< 0.5 % F.S (0.1 % F.S. available)	0.1% F.S.
Operating Temp	-20 – 80 °C	<i>Not Reported</i>	-20 – 80 °C	-20 – 80 °C
Diaphragm Displacement	< 0.001 cc at F.S.	<i>Not Reported</i>	< 0.001 cc at F.S.	< 0.001 cc at F.S.
Thermal Zero Shift	< 0.05% F.S./ °C	<i>Not Reported</i>	< 0.05% F.S./ °C	< 0.05% F.S./ °C
Materials	Stainless steel	Stainless steel	Titanium (for Acidic conditions)	Stainless steel
Thermistor Interchangeability	+/- 0.2 °C	+/- 0.2 °C	<i>Not reported</i>	<i>Not reported</i>
Thermistor Resolution	0.1°C	<i>Not reported</i>	<i>Not reported</i>	<i>Not reported</i>
Filter	50 micron sintered filter	50 micron sintered filter	<i>Not reported</i>	<i>Not reported</i>
Dimensions (Diameter x Length)	0.75” x 5.75”	1.125” x 7.5”	1.0” x 5.0”	1.5” x 8.0”
Cable	Heavy Duty with thick Poly- Urethane Jacket	Steel Armored	Blue PVC Cabling (1/4” dia)	Steel Armored (1/2 inch dia)
Multi-Channel Data logger	10 Channel and 40 Channel	4 Channels	4 and 16 Channels	

Here is the cost estimate for the different units:

Description	RST – VW2100- HD	DGSI - Heavy Duty 52610550	Geokon 4500 Ti	Geokon 4500 HD
Piezometer	\$ 795	\$ 582	\$ 1730	\$ 580
Cabling	\$ 1.32/ft (\$4.35/m)	\$2.15 / ft - Armored	\$ 0.79 / ft – PVC	\$ 1.83 / ft – Armored
Data Logger (note the thermistor takes a separate channel)	1 Channel – \$575 10 Channel – \$1365 40 Channel – \$2650	4 Channel - \$1,400	4 Channel – \$ 1,140 16 Channel – \$ 1,850 HD would need a patch cable, available in USB and RS32 connectors	

The Geokon appears to meet the requirements and is USA based. One issue I noted is that is the diameter of all of the units is 0.75” diameter or greater and the pipe specified in the bulkhead drawings is a 0.75” dia schedule 40 stainless steel pipe. That means the units couldn’t be serviced or replaced through the existing conduit.

I spoke with John Lucotch about telemetry alternatives, and he will work on some different options for what can be done at the site. However, he is out of the office for the birth of his baby for the next week.

Please let me know if you have questions or need any additional information on these Piezometers.

Thanks,

Elliott

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